

**ABSTRACT OF THE DISCLOSURE**

There is provided an endovascular fastener applier for fastening a vascular graft to a vessel with at least one fastener. The applicator generally includes a tubular body configured for positioning within the vessel and an expandable portion adjacent the tubular body. A fastener applying head is movably mounted within the expandable portion. The applicator further includes a handle assembly mounted on a proximal end of the tubular body. The handle assembly generally includes controls for expanding the expandable portion, pivoting and rotating the fastener applying head and for driving a fastener out of a fastener driving head. Preferably, the applicator also includes a storage chamber extending, from a distal end of the expandable portion, and containing a plurality of fasteners.

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